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**NEWS
OF THE
HYDRAULICS
DIVISION
OF
ASCE**



**JOURNAL OF THE HYDRAULICS DIVISION
PROCEEDINGS OF THE AMERICAN SOCIETY OF CIVIL ENGINEERS**

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NEWS
OF THE

HYDRAULIC
DIVISION

1959

DIVISION ACTIVITIES

HYDRAULICS DIVISION

Proceedings of the American Society of Civil Engineers

NEWS

April, 1959

PURPOSE OF THE HYDRAULICS DIVISION

(Quoted from the Official Register)

The advancement and dissemination of knowledge relating to the occurrence of water in nature and its behavior in structures, water courses, underground, in particular the field of the Hydraulics Division shall embrace meteorology and hydrology as they affect the engineer, fluid mechanics in engineering, and applied hydraulics as a branch of engineering science which establishes the basis for hydraulic design and for the practical use of water in different specialized branches of hydraulic engineering."

COMMITTEES SPONSOR FOUR SESSIONS AT CLEVELAND

Our committees of the Division have each prepared a session for the Convention at Cleveland on May 4-8, 1959. The four sessions were published as tentative in the February Newsletter, and the latest information indicates that no changes have been made to the programs.

HYDRAULICS CONFERENCE AT FORT COLLINS, COLORADO

July 1-3, 1959

The eighth national Conference of the Hydraulics Division will be held at Fort Collins, Colorado on July 1, 2, 3. The hosts this year are the Colorado and Wyoming Sections of ASCE and Colorado State University. There will be four days of technical sessions and one day of an extensive field trip through the beautiful Colorado Rockies. In addition to the professional sessions there will be social sessions in which fun and good fellowship can be enjoyed by all.

Conference Headquarters on Colorado State University Campus

Lesworth Hall, a beautiful new dormitory on the University Campus, will serve as the housing center for the conference. This is close to the new Engineering

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Auditorium where all conference sessions will be held. Rooms will be available at the following special rates: \$2.50 single, \$2.00 per person double. Except for the special events, meals will be available at the following prices:

	Adults	Children
Breakfast	\$0.75	\$0.65
Lunch	1.00	0.95
Dinner	1.25	1.10

In addition to the facilities listed above, there are several hotels and motels available. Write to the Housing Committee if alternate accommodations are preferred.

Facilities for Technical Sessions and Tours

The auditorium in the new Engineering Center has been reserved for the technical sessions. A conducted tour of the Hydraulics Laboratory and other engineering facilities is one of the features of the program.

A guided tour of the Big Thompson Irrigation and Power Project has been planned. This trip includes a ride across the Continental Divide over Trail Ridge Road (elevation 12,000 ft) in scenic Rocky Mountain National Park. A trip through the Hydraulics Laboratory of the Bureau of Reclamation in Denver is also in the schedule.

Social Events

After the field trip on Tuesday, June 30, a social hour with cocktails has been planned in the evening. A barbecue will be held on Wednesday evening and a special banquet on Thursday evening. All of these events are open for family participation.

Additional activities are being planned for the ladies and children in attendance at the conference.

Vacation Possibilities

Fort Collins is located near the heart of scenic Colorado. Bring the family and plan to spend a vacation in the Rockies where the scenery is magnificent, the fishing is good, and many of the housing facilities include swimming pools and other recreational facilities. Hiking, horseback riding, water skiing, tennis, and other facilities are available for families who enjoy contact with the great outdoors. Since normal tourist demands are heavy during the summer months, arrangements for a vacation in the mountains should be made early through the Housing Committee of the Conference.

Six Committees Sponsor Technical Sessions

The tentative program for the Hydraulics Division conference is as follows:
Sponsored by the Hydraulic Structures Committee

Presiding: C. E. Kindsvater, Chairman, Executive Committee, and
A. J. Peterka, Member, Hydraulic Structures Committee

THE MANIFOLD STILLING BASIN, Maurice L. Albertson, Director, Research Foundation, Colorado State University, Fort Collins, Colo., and Gene R. Fiala, Highway Design Engineer, U. S. Bureau of Public Roads, Portland, Ore.

THE VORTEX CHAMBER AS AN AUTOMATIC FLOW-CONTROL DEVICE, Ward C. Kolf, Assistant Professor, and Paul B. Zielinski, Assistant Instructor, Marquette University, Milwaukee, Wis.

NEW CONCEPTS IN TUNNEL SPILLWAY DEFLECTOR-BUCKET DESIGN, Rhone and A. J. Peterka, Engineer, Bureau of Reclamation, Denver,

sponsored by the Hydromechanics Committee

residing: Arthur T. Ippen, Vice-Chairman, Executive Committee, and Donald R. F. Harleman, Member, Hydromechanics Committee

SYMPOSIUM ON HYDRAULIC MODELS—PART ONE

UNIFIED CONCEPT OF DYNAMIC SIMILARITY IN FLUID MODELS, Donald R. F. Harleman, Associate Professor of Hydraulics, Massachusetts Institute of Technology, Cambridge, Mass.

SIGNIFICANCE AND APPLICATION OF FROUDE AND REYNOLDS NUMBERS AS CRITERIA FOR SIMILITUDE, H. K. Liu, Associate Civil Engineer, and M. L. Albertson, Director, Research Foundation, Colorado State University, Fort Collins, Colo.

DYNAMIC SIMILARITY IN WAVE AND TIDAL MODELS, F. Gerritsen, Associate Professor, Coastal Engineering Laboratory, University of Florida, Gainesville, Fla.

SEPARATION AND SCALING OF INERTIA AND VISCOUS FORCES IN PERIODIC FLOWS, Gershon Kulin, Hydraulic Engineer, Fluid Mechanics Division, National Bureau of Standards, Washington, D. C.

sponsored by the Tidal Hydraulics Committee

residing: J. B. Tiffany, Secretary, Executive Committee, and L. P. Disney, Chairman, Tidal Hydraulics Committee

SYMPOSIUM ON INSTRUMENTATION

NEW INSTRUMENTS DEVELOPED BY THE U.S.G.S. FOR THE MEASUREMENT OF TIDAL FLOW, E. G. Barron, Hydraulic Engineer, Research Division, Surface Water Branch, U. S. Geological Survey, Columbus, Ohio.

RECENT DEVELOPMENTS BY THE COAST AND GEODETIC SURVEY OF EQUIPMENT FOR THE MEASUREMENT AND REMOTE RECORDING OF WAVES AND CURRENTS, A. J. Goodheart, Division of Tides and Currents, Coast and Geodetic Survey.

PRESSURE-TYPE TIDE AND WAVE RECORDER, E. H. Bowler, Instruments and Control Systems Laboratory, National Research Council of Canada.

SPECIAL DEVELOPMENTS IN OCEANOGRAPHIC INSTRUMENTS, J. M. Grass, Head, Special Developments Division, Scripps Institution of Oceanography.

sponsored by the Sedimentation Committee

residing: Harold M. Martin, Member, Executive Committee, and E. J. Carlson, Member, Sedimentation Committee

SEDIMENTATION AND CONSERVATION ON WESTERN ARID LANDS, H. V. Larson, Branch Area Chief, General Hydrology Branch, Division of Water Resources, U. S. Geological Survey.

THE USE OF ULTRASONICS IN THE MEASUREMENT OF SUSPENDED SOLID SIZE DISTRIBUTION AND CONCENTRATION, Gordon H.

Hammer, Assistant Professor of Civil and Irrigation Engineering, Utah State University.

Sponsored by the Hydrology Committee

Presiding: Maurice L. Dickinson, Member, Executive Committee, and
V. A. Koelzer, Member, Hydrology Committee

SYMPOSIUM ON THE USE OF ELECTRONIC COMPUTERS IN HYDROLOGY

APPLICATION OF ELECTRONIC COMPUTERS TO THE SOLUTION OF
HYDROLOGIC PROBLEMS IN THE BUREAU OF RECLAMATION, Francis E.
Swain and H. S. Riesbol, Bureau of Reclamation, Denver, Colo.

THE ROLE OF ELECTRONIC COMPUTERS IN HYDROLOGIC STUDIES OF
THE TVA, W. M. Snyder, Tennessee Valley Authority, Knoxville, Tenn.

COLUMBUS RIVER SYSTEM POWER ANALYSIS BY USE OF DIGITAL
COMPUTER, David J. Lewis and Loren A. Shoemaker, Corps of Engineers,
U. S. Army, North Pacific Division, Portland, Ore.

THE USE OF HIGH-SPEED COMPUTING EQUIPMENT IN WATER RE-
SOURCE INVESTIGATIONS OF THE U. S. GEOLOGICAL SURVEY, G. E.
Harbeck, Jr., and W. L. Isherwood, U. S. Geological Survey, Denver, Colo.

Sponsored by the Flood Control Committee

Presiding: A. R. Chamberlain, Co-Chairman, Fort Collins Hydraulics
Conference, and Arno Lenz, Member, Flood Control Committee

FLOOD CONTROL PROBLEMS IN THE SOUTH PLATTE RIVER BASIN,
COLORADO, Stanley A. Miller, Supervisory Water Conservation Project Engi-
neer, Colorado Water Conservation Board, Denver, Colo.

CHANGES IN URBAN OCCUPANCE OF FLOOD PLAINS IN THE UNITED
STATES, Gilbert F. White, Chairman, Department of Geography, University
of Chicago, Chicago, Ill.

A NEW APPROACH TO LOCAL FLOOD PROBLEMS, Gen. Herbert D.
Vogel, Chairman of the Board, Tennessee Valley Authority, Knoxville, Tenn.

A SUGGESTED OUTLINE OF LEGISLATION TO ACCOMPLISH FLOOD
PLAIN ZONING, Author to be announced.

HYDRAULICS DIVISION MEMBERS SERVE IN THE INTERNATIONAL STANDARDS ORGANIZATION

Announcement has been made by ASCE Headquarters of the appointments
of Messrs. Rolland W. Carter, Frank B. Campbell, and Norbert H. Leupold
as ASCE representatives to Subcommittee ISO/TC 30/SC1 of the International
Standards Organization, with subject: Flow Measurements in Open Channels.

Mr. Carter will serve with Work Group No. 1, which deals with velocity-
area method of measurements; Mr. Leupold with Work Group No. 2 will be
concerned with notches, weirs and flumes; and Mr. Campbell will serve with
Work Group No. 3 regarding glossary of terms.

A meeting of the Subcommittee was held in London, December 8-15, 1958,
attended by Mr. Carter who was the representative of the Hydraulics Division
ASCE and the American Standards Association.

REVIEWS OF TECHNICAL PAPERS ARE INADEQUATE

The Hydraulics Division during the past three or four years has seen a
gradual increase in the number of papers received for review and consider-
ation for publication. This increase has reached the point where adequate

ews by members of the Division are not accomplished in a great many
ances. As the result a number of papers are recommended for publi-
on without a critical review to determine their real importance. The
blem stems not only from the increase in the number of papers but also
n a lack of information as to who is most qualified to review a paper and
time required for the reviewing process. Also, the problem is further
licated when the reviewer and/or the author are not fully aware of the
dards and procedures established for processing technical papers.
The Division Executive Committee in its meeting last November appointed
sk force composed of the present and past chairman of the Division's
ication Committee (Messrs. J. W. Ball, E. P. Fortson, Jr., and H. G.
ey, Jr.) for the specific purpose of studying the technical paper review
cedures with a view to improving and accelerating the process. The suc-
s of their efforts must ultimately depend upon an understanding of the
ication procedures by both authors and reviewers and an increased inter-
n resolving the problem by all members of the Division. We can start
—see "We Can Improve the Processing of Technical Papers," and com-
e the form on the inside back cover of this Newsletter.

WE CAN IMPROVE THE PROCESSING OF TECHNICAL PAPERS

Do you know how much work goes into the processing of your technical
ers before they appear in the Journal? No doubt you have pondered this
tion and wondered about the answer. The following brief outline and
rmation are offered to give you at least a partial answer to the question,
to provide you the opportunity to help in speeding up and improving the
ess:

1. Two copies of your paper are sent from the New York Office to the
Publications Chairman of the Division for review, that is, if the re-
quired three copies are sent to the New York Office, as instructed on
the inside front cover of each issue of the Journal.
2. The two copies received by the Publications Chairman are sent to two
reviewers, experts in the field covered by the paper, insofar as the
Chairman knows. The reviewers are selected from a list of some 300
names collected over the years by the chairmen of the Committee. Ad-
ditional competent reviewers are needed.
3. The reviewers make a detailed study of the paper as to its technical
contents, adequacy and suitability for publication in the Journal and re-
port their findings to the Chairman.
4. From the reviewers' reports the Chairman decides whether the paper
is to be reviewed a third time, published, or declined. At least two
unfavorable reports are required to decline publication. The paper is
either accepted as presented, accepted on condition that changes are
made to clarify or satisfy questions and requirements, or declined.
Once all the questions and requirements for a paper have been satisfied,
the paper is sent to the New York Office with the appropriate recom-
mendation.

The work outlined above is all done voluntarily and without remuneration.
Sometimes the regular work of those involved prevents immediate handling. It
take as much as three weeks (more under special circumstances) for the

Chairman to record receipt of a paper, choose reviewers and get copies of the paper to the reviewers. It may require as much as three months for a reviewer to make his review and report to the Chairman, depending on his work load. (He is asked to do it within a month, if possible.) The review process can be quite lengthy, particularly in cases where only one copy of the paper is furnished. When extensive changes are required before publication can be recommended, the time taken by the author to do this work may vary up to 6 months, or longer, depending on the time the author is willing or able to spend on the paper and the extent of the revisions required.

You, as authors, reviewers, and prospective reviewers can speed up and improve this process by, (a) preparing your paper to meet all the requirements listed on the inside front cover of each issue of the Journal; (b) by signifying your willingness to review papers in your fields of interest (see form on back cover); (c) by making prompt reviews of papers sent to you for review; and (d) by making, expeditiously, changes or comments to clarify questions and requirements brought out by the review.

HYDRAULICS DIVISION ACTIVITIES DUE FOR FURTHER INCREASE

The Division Newsletter of October 1958 describes briefly the report made in March by the ASCE Task Committee on Water Resources. As recommended in the report, an ASCE Water Resources Coordinating Committee was appointed in December 1958. Those appointed to the Committee are: Finley B. Lavery, Chairman, Joseph B. Tiffany, representing the Hydraulics Division, William W. Donnan, the Irrigation and Drainage Division, George J. Vencill, the Power Division, Richard R. Kennedy, the Sanitary Engineering Division, and Roger H. Gilman, the Waterways and Harbors Division. Don P. Reynolds was assigned as committee secretary.

The purpose of the Coordinating Committee is to coordinate and supervise the new organization and activities which are expected to result from the very significant study made by the Task Committee on Water Resources. As the next step in its activities the Coordinating Committee has asked each participating Division to undertake study of its own organization, as related to the recommendations of the Task Committee, and to furnish recommendations to the Coordinating Committee. Suggestions to the Executive Committee, Hydraulic Division, include a request for specific proposals for additional committees and personnel to man these committees. A preliminary report from the Executive Committee was due in early March 1959.

The actions proposed in the report of the Task Committee indicate that if implemented the Hydraulics Division is the one most directly affected in the field of water resources. The new programs and studies that would become the responsibility of the Hydraulic Division would be so extensive and important as to approximately equal all other activities of the Division.

IMPROVEMENT IN PUBLICATIONS STANDARDS URGENTLY NEEDED

The minutes of various committee meetings as well as correspondence between individuals dealing with ASCE publications contain many references to the current lack of proper recognition given to the Division Journals of ASCE by prospective authors, readers, and library officials. The Journals in their present form are looked upon as an interim measure pending publication of

me of the papers in ASCE Transactions. Thus, the general membership is deprived of complete coverage of some of the best papers of direct interest to them. Authors, having no assurance that their work will appear later in ASCE Transactions, naturally give preference to journals or other recognized publications of other professional societies. In this manner some outstanding papers written by ASCE members are lost insofar as the records and the history of the Society are concerned. Moreover, this lack of recognition of the Journals not only affects the attitude of the author toward producing a worthwhile paper, but also the attitudes of those individuals who are asked to review the paper as well as those who participate in discussions of the technical material.

It appears therefore that action to improve the standards of publication for the Journals is urgently needed. To this end suggestions have been made to the Publications Committee, ASCE, that early attention be given to converting the Journals into suitable and attractive media for publication of professional papers, including the adoption of publication standards that will be recognized by the Library of Congress and other scientific libraries as being appropriate for permanent inclusion in their collections.

AN INTERESTING PAPER ON HYDROLOGY PUBLISHED IN JOURNAL OF THE SANITARY ENGINEERING DIVISION

The paper "Hydrology of Urban Runoff" by A. L. Tholin and C. J. Keifer is being published in the March Journal of the Sanitary Engineering Division as Proceedings Paper No. 1984. Members who are interested in obtaining copies of this paper can order it by using the coupon in the "Proceedings Available" section of the March issue of CIVIL ENGINEERING.

FOR YOUR CALENDAR

ASCE Meetings

May 4-8, 1959	ASCE, Cleveland Convention
July 1-3, 1959	Hydraulics Division, Fort Collins Conference
October 19-23, 1959	ASCE, Washington, D. C., Convention
March 7-11, 1960	ASCE, New Orleans Convention
June 19-23, 1960	ASCE, Reno Convention
October 9-13, 1960	ASCE, Boston Convention
April 10-15, 1961	ASCE, Phoenix Convention
October 16-20, 1961	ASCE, New York Convention
February 1962	ASCE, Houston Convention
May 1962	ASCE, Omaha Convention
October 15-19, 1962	ASCE, Detroit Convention

Non-ASCE Meetings

April 13-15, 1959	ASME Hydraulic Conference, University of Michigan
June 15-19, 1959	American Society for Engineering Education, Pittsburgh, Pennsylvania

1959-16--8

HY 4

April, 1959

June 17-20, 1959

National Society of Professional Engineers, New York City

June 18-20, 1959

ASME Applied Mechanics Conference
Virginia Polytechnical Institute,
Blacksburg

August 24-29, 1959

International Association for Hydraulic Research, Montreal, Canada

September 9-11, 1959

Midwestern Conference on Fluid and Solid Mechanics, University of Texas, Austin

Deadline dates for Newsletter contributions: June issue - April 15.

August issue - June 15.

USE THE HYDRAULICS DIVISION NEWSLETTER

You are urged to continue use of the Division Newsletter for announcements, inquiries, personnel news, committee reports, surveys and other items of interest to Division members. A short note covering the highlights of committee meetings (including task forces) is particularly requested.

GUY L. ARBUTHNOT, Jr.

P. O. Box 631

Vicksburg, Mississippi

Newsletter Editor

P.S. Please fill out the form on the next page now and return it to Mr. Ball.

REVIEWERS NEEDED

Your help is earnestly solicited in obtaining willing and qualified members who are experts in their fields to review technical papers. The form below is furnished for your convenience in nominating yourself, and/or others for this important work.

Reviewers are needed in the following fields:

- | | |
|------------------------|-------------------------------|
| 1. Research | 15. Tides and Waves |
| 2. Fluid Mechanics | 16. Beaches and Estuaries |
| 3. Hydraulic Models | 17. Ice and Permafrost |
| 4. Open Channel Flow | 18. Water Measurement |
| 5. Closed Conduit Flow | 19. Design |
| 6. Turbulence | 20. Spillways |
| 7. Density Currents | 21. Outlet Works |
| 8. Cavitation | 22. Canal Structures |
| 9. Sedimentation | 23. Gates and Valves |
| 10. Hydrology | 24. Operation and Maintenance |
| 11. Floods | 25. Analogs |
| 12. Ground Water | 26. Instrumentation |
| 13. Water Supply | 27. Other _____ |
| 14. Meteorology | |

Your name and address:

Indicate fields of interest by number, thusly: (1), (2), etc.:

Name and address of recommended reviewers: Indicate Reviewer's fields of interest by number:

Mail to:

James W. Ball, Chairman
Committee on Publications
Hydraulics Division, ASCE
Bureau of Reclamation
Building 56, Denver Federal Center
Denver 25, Colorado

